Keeping Out Unwelcome Immigrants of Plant World

lous to spend thousands of dollars annually to prevent one little moth egg that could pass through the eye of a cambric needle from entering the country, the machinery of the Departments of Agriculture, State. Treasury and Post Office are cooperating to keep out that little pest, the pink cotton boll-worm.

The same agencies are united to exclude by quarantine diseased potatoes, trees, shrubs and plants, and in so doing are accomplishing far more than one would think toward holding down be cost of living.

The "general staff" which conducts the defense against plant disease is known as the federal horticultural board and is composed of five high officials of appropriate bureaus of the Department of Agriculture.

All along the fertile valley of the Nile, where the luxuriant Egyptian cotton grows, planters are more worried over the nulnous work of the pink bollworm in their cotton fields than they are over the greater devastation of the European war.

In the consternation caused by the loss of a fifth of their crop they have thrown up the barriers and are excluding all foreign cotton-an unnecessary measure against the pest, with its life cycle of destruction so firmly in possession of their fields; but directed against any further insect invaders.

The pink boll-worm was taken to Egypt from India, where its wretched family billions are still leaving their baleful impress.

The tiny egg is deposited by the mother moth upon the growing plant leaf, which becomes the food of the larvae, emerging in ten days from the egg. Thence it eats its way into the heart of the cotton boll, where in this destructive stage it spends about twenty days, until full grown, when it is nearly half an inch long.

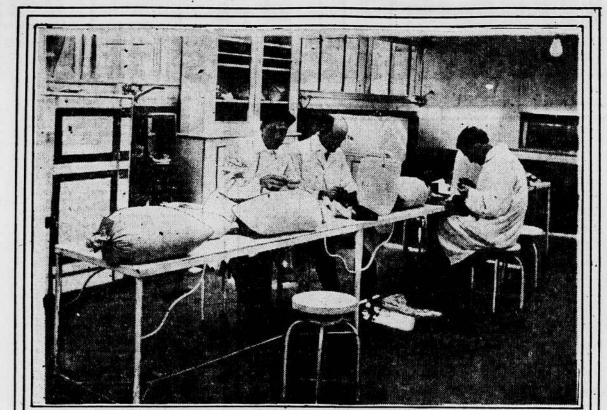
It has been feeding upon the cotton seeds, and when about to transform into the pupa and become a moth again it occupies the hull, from which it has devoured the kernel. The worm's pinkish color and its place of living have given it the name "pink boll-worm."

Inspecting Susping that all animal life, including boll-worms in every stage, becomes extinct in less than an hour and the cotton can be sent without possibility of spreading infection to any mill for manufacture.

**

There are only four of these fumigating tanks in the country, one at each of the four ports of entry for cotton—New York, Newark, N. J.: Boston and San Francisco. They are under private ownership and are run as a business proposition, a charge being words for each other transform.

In about two weeks more the moth emerges, a fragile insect about threequarters of an inch in expanse, now a grayish brown color with darker splotches. In three or four days it deposits its eggs and lives ten days or tanks are under the closest of gov-



INSPECTING SUSPECTED PLANTS FOR PESTS OR SIGNS OF DISEASE.

business proposition, a charge being made for each bale of cotton sterilized. The plant at Newark was built for its owner's accommodation by one of the great manufacturers located there as he uses vast quantities of the Egyptian

ing behind it a multiplied evil sucwhile the annual yield of American be of a positive strength; the appli-Sea Island cotton, the best in the world, ances and chemicals tested and every

Sea Island cotton, the best in the world, is by no means enough to make all the spool cotton, automobile tires and other textiles requiring a grade better than that of ordinary upland cotton, it is somewhat surprising to learn that 300,000 bales of Egyptian cotton contaminated by the pink boll-worm are imported with impunity to the United States.

This was made possible by a system of fumigation originated by the board and worked out on a commercial scale by its experts, by which every bale is disinfected before distribution.

The cotton—a couple of hundred bales at a time—is placed in a great horizontal cylinder of heavy structural steel, hermetically sealed and then the air is pumped out until there is almost a vacuum within. Hydrocyanic acid gas is then admitted, and although the bales are compressed before shipment until they are almost as hard as blocks of wood, it penetrates the cotton so Maturally, our Canadian neighbor



MINIATURE VACUUM DISINFECTING TANK IN THE EXPERIMENTAL LABORATORY; COMMERCIAL TANKS ARE

TANK IN THE EXPERIMENTAL LABORATORY; COMMERCIAL TANKS ARE BUILT AFTER THIS MODEL.

Wishes to share in the high prices, and his crop is wanted here; but the board says: "No diseased stock may be entered."

**

Accordingly, this working plan has been agreed upon between the two countries: Canada may send potatoes free from injurious disease and insect pests to ports of entry designated by this country. On arrival the tubers are examined by federal inspectors, and if found to be infected are returned to the consignors at their expense. Potatoes are coming into the country in such quantities that, although in the main they are all right, carloads are sent back almost every day.

A disease known as potato wart or canker having broken out in Great Britain, Germany and Austro-Hungary, the department issued its proclamation of robidding absolutely the importation of potatoes from other countries.

Another thing which the board is proclamation of optatoes from other countries.

Another thing which the board is proclamation of optatoes from other countries.

Another thing which the board is proclamation of optatoes from other countries.

Another thing which the board is proclamation of of disease is the destruction of fighting is the importation of any the country of the plants.

Another thing which the board is best or disease is the destruction of fighting is the importation of any the plants.

This state inspection is generally pine blister rust, a tree disease destructive of both ornamental and forest pines.

Oliveless Days.

RITISH CONSUL NUGENT said at a banquet in Chicago: They tell a good story about a Greek

structive of both ornamental and forest pines.

This blight may be carried by all five leaved pines from Europe, Asia, Canada and Newfoundland and all gooseberries and currants from Canada. Their importation is absolutely prohibited.

Cotton seed, except from some parts of Mexico: the seed of alligator pears from Mexico and Central America, living canes of sugar, all citrous nursery stock (oranges, lemons, etc.), all Indian corn or maize from oriental countries and some less important plant products may not be imported at all, because each is likely to carry some disease which thus far has not broken out in our native plants. This rule is just as reasonable as it is to prevent the landing of passengers from some port known to be full of such infectious disease as the bubonic plague.

These plant quarantines cover the stock found in certain localities or certain diseased plants, but the over-

found to be contaminated as high as per cent with the pink boll-worm.

Even for a total abstainer, a physician may order an exception for the patient's good, and there is one exception to this mailing order. Seeds and plants may be sent to the Department of Agriculture; for in that case they are examined by experts, and if diseesed are at once cremated.

The board maintains on the grounds of the department near the sast wing.

The board maintains on the grounds of the department, near the east wing, a small laboratory, where diseased plants of all kinds are taken. It contains a miniature disinfecting tank, and is a most valuable adjunct.

The act creating the board provided that it should consist of five members, to be designated by the Secretary of Agriculture, and that they should serve without additional pay.

The Secretary appointed as its chairman, Mr. Charles L. Marlatt of the bureau of ethnology; William A. Orton, vice chairman, of the bureau of plant industry; George B. Sudworth of the forest service, Walter D. Hunter of ethnology and Karl F. Kellerman, also of plant industry, the other three members. Mr. Reuben C. Althouse was named as secretary of the board, and upon his shoulders and his assistants fall the details of the office and the execution of the directions of the board.

The effectiveness of the various quarantines, the satisfactory disinfecting of cotton, the agreements with foreign countries on especial subjects, the closing of the foreign markets against plants, seeds and samples have not been attained without mature thought and action by the board; nor without co-operation on the part of the federal de-partments—the Treasury, through its customhouses; the Post Office; the In-terior, through the bureau of stand-

THE FEDERAL HORTICULTURAL BOARD. LEFT TO RIGHT-CHARLES L. MARLATT, CHAIRMAN: WALTER D. HUNTER, GEORGE B. SUDWORTH, WILLIAM A. ORTON, REUBEN C. ALTHOUSE, SECRETARY. KARL F.

KELLERMAN, ALSO A MEMBER, NOT PRESENT WHEN PHOTOGRAPH WAS TAKEN.

